ated in two, medium in eight, diminished in seven, and absent in eight cases. Pupillary reflexes—examined in reference to pain reacted promptly in ten cases, medium in nine, slowly in four, and not at all in seven cases, of thirty examined. In regard to the light reaction, prompt in five, medium in thirteen, slowly in twelve cases. In reference to the inequality of the pupils, the author found in four cases only a slight inequality. W. C. K.

PATHOLOGICAL.

A Case of So-called Amyotrophic Lateral Sclerosis.—By Prof. H. Senator (*Deutch. Medicin Wochenschr.*, 1894, No. 20).

Leyden in opposition to Charcot, has maintained that amyotrophic lateral sclerosis is not a disease *sui generis*, that this affection is not to be differentiated from progressive bulbar paralysis, and that the spastic phenomena upon which so much stress is laid, are of secondary importance and are not to be referred to degeneration of any particular set of fibres in the white substance of the cord.

The case of Senator seems to substantiate Leyden's view. It is that of a widow fifty-seven years of age who presented the characteristic picture described by Charcot as amyotrophic, lateral sclerosis. There were paralysis of the upper and the lower extremities, contractures, stiffness, increased reflexes, ankle-clonus, marked atrophy of the hand muscles, paresis and atrophy of the tongue and lips, speech inarticulate, dysphagia, and other symptoms belonging to the disease. Psychic functions, sensibility, and the action of the sphincters were undisturbed. After a duration of five years the patient died of bronchopneumonia.

The well-hardened cord showed the following changes:

a. Marked atrophy of the ganglion cells in the anterior horns of the cervical and the dorsal segments. Hemorrhages in the cervical enlargement. Clarke's column unaffected. About this column there are round areas where the tissue has fallen out. Below the middle of the dorsal region the atrophy diminishes, and disappears entirely in the lumbar region.

b. The vessels of the entire cord are filled to excess with blood, but their walls are normal. There are also numerous recent hemorrhages both in the white and in the gray substances, particularly in the neighborhood of Clarke's column. Some older hemorrhages are apparent.

c. Areas of softening, only, however, in the gray substance, from which the tissue has fallen out. Two such large areas exist in the cervical and lumbar enlargements on either side of the central canal, forming cavities, around which the tissues are intact.

The central canal exhibits no changes. In a few of the posterior roots of the lumbar segments, the medullary sheaths appear to be swollen; the axis-cylinders are preserved. The roots of the cervical and dorsal regions show no alterations.

To sum up, the important changes are simple, non-inflammatory atrophy of the ganglion cells in the anterior horns of the cervical and the dorsal regions,recent hemorrhages in the entire cord, and areas of softening, probably due to the hemorrhages.

How does this explain the clinical picture. The muscular atrophy of the upper extremities, as well as the atrophy of the lips and tongue, are to be traced to the atrophy of the cells in the anterior cornua and in the medulla. The fact that the anterior roots presented no or only slight atrophy is not striking in view of similar recent observations.

The significance of the hemorrhages is more difficult to explain. As these were recent or at the most but a few weeks old, the characteristic symptoms which existed for years are not to be referred to them. The hemorrhages are to be regarded as terminal phenomena traceable to the progressive cathexia. A hemorrhagic diathesis is not to be considered, as neither during life nor after death were hemorrhages in other tissues discovered.

The most striking fact was the entire absence of an expected degeneration in the lateral pyramidal tracts, to which the stiffness, contractures and exaggerated reflexes were referred. Senator believes with Leyden that the lateral sclerosis is always secondary, never primary (excluding hereditary cases), and dependent upon other changes in the spinal cord or brain.

If pathological changes existed in the brain to account for the symptoms in the lower extremities, the surprising fact thus remains that there was no descending degeneration to be found.

This case incontrovertibly proves that the clinical picture of amyotrophic sclerosis may obtain, without lateral sclerosis, and that the disease is not to be sharply separated from others, *i. e.*, is not an affection *sui generis*. Senator recommends terming such affections atropho-spastic paralyses of spinal or bulbar, or bulbo-spinal origin. P. M.

Facial Monoplegia.—*La Médécine Modérne* contains an interesting microscopical study by M. Parisot on this subject. He describes a case of facial monoplegia, the only muscle involved being the depressor of the left angle of the mouth, where the lesion was confined to a certain portion of the right internal capsule. The paralytic symptom had persisted for three months, until the patient died with broncho-pneumonia. Autopsy disclosed a tumor about the size of a pea, occupying the middle of the superior digitation of the right frontal convolution. Successive sections through this region revealed about the middle portion of the brain an old hemorrhagic cicatrix through the anterior part of the external capsule extending transversly across the lenticular neucleus to its posterior segment. The point of degeneration was confined to the inferior lay of the right cerebral peduncular fibres. This instructive observation demonstrates that the fibres of the facial emanating from the cerebral cortex, and destined for the ennervation of the inferior part of the face, occupy in their passage a line through the internal capsule. That part of the internal capsule which is entirely posterior to the geniculate fasciculus passing through the floor of the cerebral peduncle corresponding to a region situated between the internal and middle peduncular fasciculæ. B. M.

Study of Endocular Circulation and the Pupillary Changes in Hypnotic Sleep.—Prof. S. Grosso recently read a paper in the Medico-chirurgical Academy, of Naples, on this subject. • Experimenting on two individuals in the passsge from hypnotic sleep to the waking state, and vice versa, he has noticed a sensible dilation of the pupil, remaining thus during the hypnotic state, losing the faculty of reaction and accommodation, to regain it on passing over into the waking state. The suggestion of cold is followed by a dilatation of the retinal vessels and hyperemia of the fundus. A suggestion of heat determined a restriction of these vessels and consequent anemia of the ocular fundus. These conditions disappear on returning to the normal. Suggestions of pain and joy determine respectively, relative anemia and hyperemia of the funus. In the